



United States General Accounting Office

Report to the Chairman, Subcommittee  
on Oversight and Investigations,  
Committee on Energy and Commerce,  
House of Representatives

June 1992

# HYDROELECTRIC DAMS

Interior Favors  
Removing Elwha River  
Dams, but Who Should  
Pay Is Undecided



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Jun 92

**Resources, Community, and  
Economic Development Division**

B-243052

June 5, 1992

The Honorable John D. Dingell  
Chairman, Subcommittee on Oversight  
and Investigations  
Committee on Energy and Commerce  
House of Representatives

Dear Mr. Chairman:

Over the past several years, you have asked us to review a number of issues related to the effects of the Elwha and Glines Canyon Dams on fisheries in the Elwha River, which is in the state of Washington. Several of these issues related to the Federal Energy Regulatory Commission's (FERC) authority to license these hydroelectric dams, which we addressed in legal opinions sent to you on February 16, 1990; August 16, 1990; and June 5, 1991. Moreover, in a March 1991 report to you, we addressed the costs of and alternatives for restoring fisheries in the Elwha River.<sup>1</sup> This report addresses the Department of the Interior's official positions on (1) whether the Elwha and Glines Canyon Dams should be removed and (2) if they are, who should pay the costs associated with their removal.

## Results in Brief

Hydroelectric Dams:  
Interior Favors  
Removing Elwha  
River Dams, but  
who Should Pay is  
Undecided

The Department of the Interior's position is that in order to restore fisheries in the Elwha River, the Elwha and Glines Canyon Dams need to be removed from the Elwha River. This position was developed within the Office of the Secretary of the Interior with input from the Fish and Wildlife Service, National Park Service, and Bureau of Indian Affairs. In a June 12, 1991, letter to FERC about pending applications for relicensing the Glines Canyon Dam and initial licensing of the Elwha Dam, Interior stated its position and justified it on the basis of inherent obligations to (1) ensure restoration of all species of anadromous fish to their former habitat within the Elwha River basin;<sup>2</sup> (2) ensure restoration of the ecosystem in the Elwha River basin, including the Olympic National Park, which encompasses one of the two dams; and (3) facilitate access of resident

<sup>1</sup>Hydroelectric Dams: Costs and Alternatives for Restoring Fisheries in the Elwha River (GAO/RCED-91-104, Mar. 27, 1991).

<sup>2</sup>Anadromous fish hatch in freshwater rivers and streams, migrate to the ocean to mature, and return to the freshwater rivers and streams of their origin to spawn.

Indian tribes to their usual and accustomed fishing places, as required under U.S. treaty obligations with the tribes.<sup>3</sup>

Although Interior's position is that removal of the dams is needed to satisfy the above obligations, Interior had not, as of May 1, 1992, resolved with FERC and the Office of Management and Budget (OMB) the questions of whether the two dams would be removed and, in that event, who should be responsible for paying the costs of removing them. Interior officials said that a successful project to remove the dams would require unified administration positions on removing the dams and on who should pay the costs—the owner or the government and, if the government, which federal agency.

Legislation recently introduced in both the Senate and the House of Representatives may resolve the controversy over the dams. One of the purposes of the proposed legislation would be to restore the Olympic National Park and the Elwha River ecosystem and fisheries. It would do this through federal acquisition of the two dams and subsequent comprehensive and multidisciplinary analysis of the most effective and reliable alternatives—including dam removal—for fully restoring, enhancing, and protecting the ecosystem, fisheries, and wildlife of the Elwha River basin, and for fulfilling other purposes of the act. If such legislation is adopted, it will render moot the issue of FERC's authority to issue licenses for the dams.

## Background

The Elwha River flows for 44 miles from its source in the Olympic Mountains of Washington State through the Olympic National Park to the Strait of San Juan de Fuca. Two dams are located along the river: the Glines Canyon Dam, located 14 miles from the mouth of the Elwha River and wholly within the Olympic National Park,<sup>4</sup> and the Elwha Dam, located 7 miles downstream from the Glines Canyon Dam and outside the Olympic National Park. The Elwha Dam was built between 1911 and 1913, and the Glines Canyon Dam was built in 1927. The sole purpose of these dams is to provide part of the electricity used by a local pulp and paper mill in Port Angeles, Washington. Together, the dams generate about 172 gigawatt

<sup>3</sup>The letter was signed by the Director, Office of Environmental Affairs, which is within the Office of the Secretary of the Interior. The director informed us that he has been delegated the authority to sign such letters for Interior. He also told us that the issues contained in the letter had been discussed with and agreed to by the Secretary of the Interior.

<sup>4</sup>The Glines Canyon hydroelectric project encompasses 672 acres, of which 512 acres are federal lands and 160 acres are privately owned lands within the Olympic National Park's boundaries. The project's major components (the dam, penstock, and powerhouse) and the lower 40 acres of the reservoir are located on the privately owned lands.



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hours of electricity annually,<sup>5</sup> or about 40 percent of the mill's power. The bulk of the mill's energy is provided by the Bonneville Power Administration through a local utility.

The Elwha River historically supported large populations of wild anadromous fish, including four species of Pacific salmon (chinook, coho, pink, and chum) and three species of trout (steelhead, cutthroat, and Dolly Varden char). Since the construction of the Elwha Dam, these native fish have been unable to migrate upstream to spawn and have been eliminated from the river above the dam. As a result, various wildlife that depend upon anadromous fish for food have had to relocate. This situation has adversely affected the Elwha River ecosystem, especially that which is within the Olympic National Park. The Elwha and Glines Canyon Dams also have affected the federal government's treaty obligations to Indian tribes and the federal trust responsibility to protect Indian rights and resources, particularly as they relate to the fishery resource and associated Indian fishing rights in the Elwha River basin.

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## Licensing Issues

FERC is currently considering whether to issue long-term licenses for the continued operation of these two hydroelectric projects. The Glines Canyon Dam's original 50-year license to provide hydroelectric power expired in 1976. Since then FERC has renewed the license annually. The Elwha Dam, which has never been licensed, also continues to operate. The owner of the two dams, James River II, Inc., has applied to FERC for a new long-term license for Glines Canyon Dam and an original long-term license for Elwha Dam. In considering the license applications, FERC prepared a draft environmental impact statement for the Elwha and Glines Canyon hydroelectric projects in February 1991. FERC had not issued a final environmental impact statement as of May 1, 1992.

In 1935 the Congress amended the Federal Water Power Act to, among other things, prevent the Federal Power Commission, now known as FERC, from licensing dams in national parks. The amendment also renamed the act the Federal Power Act. GAO has taken the position that when the President, as authorized by the Congress, extended the boundaries of the Olympic National Park in 1940 to include Glines Canyon Dam, relicensing the dam was effectively prohibited.<sup>6</sup>

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<sup>5</sup>A gigawatt is a unit of power equal to one billion watts.

<sup>6</sup>For a more extensive discussion of the issues raised in this case, see our legal opinions of February 16, 1990 (B-236481); August 16, 1990 (B-236481.2); and June 5, 1991 (B-236481.4).

In the summer of 1990, the Department of the Interior asked FERC to issue a declaratory order that FERC did not have jurisdiction to issue a new long-term license for the Glines Canyon Dam. Interior argued that, even though the Glines Canyon Dam was properly licensed before the boundaries of the Olympic National Park were extended, existing laws and regulations preclude FERC from issuing licenses for dams in national parks. On October 19, 1990, FERC denied Interior's request and held that FERC had jurisdiction to issue a new license for Glines Canyon Dam. In March 1991 FERC denied a petition by Interior for a rehearing.

On March 18, 1992, the Department of Justice filed a brief on behalf of the Department of Commerce's National Marine Fisheries Service in the U.S. Court of Appeals 9th Circuit, challenging FERC's authority to relicense the Glines Canyon Dam on the basis that the Federal Power Act precludes FERC from issuing licenses for dams in national parks. Concurrently, the Department of the Interior filed a friend of the court (*amicus curiae*) brief with the court also challenging FERC's authority to relicense the Glines Canyon Dam on the same basis. FERC and the licensee filed briefs on April 22, 1992, supporting FERC's authority to relicense Glines Canyon Dam under the Federal Power Act. Oral arguments are expected to be presented in late summer.

## Costs of Mitigation or Dam Removal

A major concern in the licensing process is whether fisheries above the dams can be restored without removing the dams. The owner of the dams has proposed a number of mitigation measures in lieu of dam removal. For fish passage upstream, the owner would construct a fish ladder at Elwha Dam and a trap-and-haul facility at Glines Canyon Dam. For fish passage downstream, the owner would install screens and modify the spillway at Elwha Dam and would pass fish over the spillway at Glines Canyon Dam. The costs of these measures, according to FERC, range from \$20 million to \$40 million, depending on the measures selected.<sup>7</sup> FERC estimated the annual cost of operating and maintaining such facilities at \$160,000 to \$260,000.

Alternatively, FERC has estimated the cost of removing both dams at about \$61 million. This cost could increase to about \$124.6 million if the large amount of sediment that has accumulated in the reservoirs behind the dams has to be hauled to a disposal site several miles away, rather than stabilized in place.

<sup>7</sup>Costs are in 1990 dollars unless otherwise noted.

## Interior Believes Dams Should Be Removed

The Department of the Interior's position is that both the Elwha and Glines Canyon Dams should be removed. Interior developed this position as a part of its comments to FERC on pending applications being considered by FERC for relicensing Glines Canyon Dam and initial licensing of Elwha Dam. Interior's decision was based principally on its responsibility to (1) restore anadromous fish populations in the Elwha River basin, (2) restore the damaged ecosystem of the Elwha River basin, and (3) fulfill U.S. treaty obligations with resident Indian tribes. Interior's position was developed within the Office of the Secretary of the Interior, which requested that the Fish and Wildlife Service, National Park Service, and Bureau of Indian Affairs provide their opinions to help develop a unified departmental position. The departmental position was presented to FERC on June 12, 1991.

According to Interior, the natural resources of the Elwha River basin have suffered adverse effects for almost 80 years. Construction of the two dams, which block more than 90 percent of the river basin's anadromous fish-spawning and -rearing habitat, has severely affected the river's fish runs. Dam construction also has led to the critical depletion of spawning gravel and to the deterioration of water quality in the middle and lower reaches of the Elwha River.

Interior claims that the dams have also adversely affected the wildlife of the Elwha River basin. For example, 22 species of terrestrial and avian wildlife within the Elwha River basin depend on various life stages of anadromous fish as an important part of their diet. Some affected wildlife have had to shift habitat because of the loss of the anadromous fish on which they depend as an important food source. According to Interior, wildlife populations in the Elwha River watershed are lower than in other Olympic National Park drainages that support anadromous fish.

Finally, Interior said that construction of the dams has resulted in the loss of Indian tribes' access to usual and accustomed fishing places, as well as a significant loss of tribal fishery resources. Interior stated that treaties with the Indian tribes in the Elwha River basin reserve to the tribes the right to take up to one-half of the harvestable portion of the anadromous fish returning to spawn. However, since the construction and operation of the Elwha and Glines Canyon Dams, the resident tribes have, over the past 80 years, lost access not only to their accustomed fishing places but also to their portion of the Elwha River fishery resources. The tribes' access to their accustomed fishing places and their share of the fishery resources is a right, according to Interior, that cannot be abrogated or diminished.

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without the specific action of the Congress. Interior stated that the federal government has the responsibility to protect the property interests of the tribes from diminishment by a third party.

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## Who Should Pay Dam Removal Costs Is Undecided

Determining who is liable for the cost of dam removal is tied to the dam licensing process. If the federal government wants to remove a licensed dam, the government would have to pay the owner to acquire the dam and then pay the cost of the dam's removal. However, if the dam is unlicensed, the owner could be required to pay removal costs. Although Interior's position is that both dams should be removed, who should pay the costs to remove the dams—the owner or the government and, if the government, which federal agency—has not been resolved.

The Glines Canyon Dam was licensed in 1926. As a result, should the government decide that this dam ought to be removed, the government would be obligated to acquire the dam and pay any removal costs. The Elwha Dam, on the other hand, has never been licensed. Therefore, if FERC decides not to issue a license, the owner could be required to pay removal costs. It should be noted, however, that if FERC should license the Elwha Dam, it would be subject to the same rules as other licensed dams. Should the government then decide that the Elwha Dam ought to be removed, it would have to acquire the dam and pay for any removal cost. Which federal agency would pay these costs is undecided.

Interior officials stated that unified administration positions are needed not only on a decision to remove the dams but also on who should pay the removal costs. Interior expressed the need for such a position in an October 17, 1991, letter to Representative Al Swift of Washington, who had voiced concerns about the funding of dam removal and fisheries restoration, and stated that it is working toward this end. Interior officials informed us that they intend to initiate a dialogue with OMB on who should pay dam removal costs. However, as of May 1, 1992, Interior had not formally approached OMB on this matter. OMB officials informed us that they have not addressed the issues of dam removal or who will pay removal costs.

## Recently Proposed Legislation May Resolve Much of the Controversy Surrounding the Dams

On April 2, 1992, the Elwha River Ecosystem and Fisheries Restoration Act (S. 2527) was introduced in the Senate that would resolve the dispute over the Glines Canyon and Elwha Dams and moot the litigation. A companion bill with the same title was introduced in the House of Representatives (H.R. 4844) on April 10, 1992, that parallels the provisions of S. 2527.

Under the proposed legislation, the owner of the Elwha and Glines Canyon Dams will tender ownership of the dams to the Secretary of the Interior in exchange for the United States assuming certain obligations, including dam removal and any fish restoration. The pulp and paper mill will relinquish its right to purchase electricity in exchange for electric power to be delivered from the Bonneville Power Administration, through a local utility, to the pulp and paper mill at a cost comparable to what would have been paid had the dams been licensed. The sponsors of the legislation maintain that federal acquisition of the projects not only will terminate the controversy over FERC authority to license the dams and the impacts on Olympic National Park, but also will provide Interior with the opportunity to substantially further the federal government's salmon restoration efforts in the Pacific Northwest. The proposed legislation authorizes to be appropriated such sums that may be necessary to carry out the purposes of the act.

The proposed legislation provides that, within 3 months following federal acquisition of the projects, the Secretary of the Interior will convene a task force, comprised of federal, state, and local entities, that will be charged with preparing a comprehensive and multidisciplinary analysis of the most effective and reliable alternatives—including removal of the projects—for fully restoring, enhancing, and protecting the ecosystem, fisheries, and wildlife of the Elwha River basin, while preserving the quality and continued availability of Elwha River water to its users. The task force will prepare a plan based on its findings and make recommendations to the Secretary of the Interior. Upon approval of the plan, the Secretary is authorized and directed to implement the plan, including authority to remove the projects.

The proposed legislation also calls for the Secretary of the Interior to take all steps necessary to protect water quality for all Elwha River water users. In addition, the proposed legislation states that such actions should be taken before any dam removal that may adversely affect water quality. The bills also address the disposition of the acquired lands. The project lands within the boundaries of the Olympic National Park would become part of the park. The river corridor lands acquired at the Elwha Dam, and



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determined by the Secretary to be necessary to protect the federal investment in restoration, would be designated as a national wildlife refuge. The remaining lands would be managed by the Secretary for the benefit of the Lower Elwha Tribe to provide lands for tribal housing and economic development purposes.

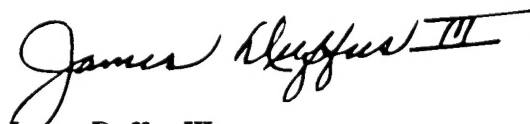
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In performing our work, we held discussions with officials from Interior, FERC, and OMB in Washington, D.C. We also reviewed relevant correspondence and documentation between Interior and FERC as well as correspondence between Interior and Members of Congress. We discussed the results of our work with Interior officials, who generally agreed with the information presented. As requested, however, we did not obtain written agency comments on a draft of this report. We conducted our review from May 1991 to May 1992 in accordance with generally accepted government auditing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report for 30 days from the date of this letter. At that time we will send copies to the appropriate congressional committees, the Secretary of the Interior, the Chairman of FERC, the Director of OMB, and other interested parties. We will also make copies available to others upon request.

Please contact me at (202) 275-7756 if you or your staff have any questions. Other major contributors to this report are listed in appendix I.

Sincerely yours,



James Duffus III  
Director, Natural Resources  
Management Issues



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# Major Contributors to This Report

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